4. A) $MR = 100-2q = 20 = MC \Rightarrow q=40 \quad p=60$

$MC = \frac{60-20}{60} = \frac{2}{3} \quad TC = 40\times60 - (30+20\times40) = 1570$

B) $\frac{1}{2}\times40\times40 = 800$ (C) $= \frac{60-20}{60} = \frac{2}{3}$

~~MR = MC~~

D) $MR = MC + 10$

$\begin{cases} 100-2q = 30 \quad q=35 \quad p=65 \\ \pi = (35\times65) - (30+20\times35) - 10\times35 = 1195 \end{cases}$

(E) $(1-10\%)MR = MC \quad 0.9(100-2q) = 20 \quad q = \frac{550}{9} \quad p = 350$

(F) $1570 - 1000 = 570$

(G) ~~MR~~ $0.8 \times 1590 = 1256$

(H) $(80\times20) - (30+20\times80) = -30 \Rightarrow$ D (~~無損~~)

5. $MR = P\left[1-\frac{1}{E_d}\right] = 4 \quad MC\left[1-\frac{1}{E_d}\right] \quad E_d = \frac{4}{3}$

6. $P = a-bq \quad MR = a-2bq$

$MR = MC+t \iff a-2bq = k+t \quad q = \frac{a-(k+t)}{2b}$

$P = \frac{a+k+t}{2} \quad P_0 = \frac{a+k}{2} \quad P^* - P_0 = \Delta P = \frac{t}{2}$

7. $MC_A = MC_B = MR$

$2q_A = 8q_B = 280 - 2q_A - 2q_B$

$q_A = 40$

$q_B = 20$

$P = 220$